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## AVERAGE AND PROBABILITY.

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179. Proposed by HENRY HEATON, Atlantic, Iowa.

Through every point of the circumference of a given circle, chords are drawn in every possible direction. What is their average length?

180. Proposed by J. EDWARD SANDERS, Reinersville, Ohio.

There are  $n$  numbers in a box numbered from 1 to  $n$ . A number is drawn and replaced  $n$  times. Show that on the average the number of repeats is  $\left(\frac{n-1}{n}\right)^n n$ .

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## GROUP THEORY.

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15. Proposed by PROF. R. D. CARMICHAEL, Anniston, Ala.

Prove that there is no simple group of odd order less than 10,394.

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## A CORRECTION.

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Professor G. Peano has called my attention to the fact that in my article on the transcendence of  $e$  and  $\pi$ , Vol. 12, page 223, line 9, of the MONTHLY, Newton's formulas which should be  $a_n s_1 + a_{n-1} = 0$ ,  $a_n s_2 + a_{n-1} s_1 + 2a_{n-2} = 0$ , etc., are cited incorrectly. This makes it necessary to introduce in the function  $\phi(x)$  at the bottom of page 221, the factor  $a_n^{np-1}$  and to modify the expressions on pages 222 and 223 in a corresponding way. The corrections apply to the proof of the transcendence of  $\pi$ , that for the transcendence of  $e$  requiring no change. The necessary modifications are to be found in Mr. Lennes' and my "Introduction to Infinitesimal Analysis" where the proof is reproduced. O. VEBLEN.

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## NOTES AND NEWS.

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Mr. L. Weeks of Yale University has been appointed instructor in mathematics in Purdue University.

R. D. Carmichael has been appointed Professor of Mathematics in the Presbyterian College for Men at Anniston, Ala.

Prof. T. E. McKinney of Marietta College has accepted the Professorship of Mathematics in the Wesleyan University.

Dr. George Bruce Halsted has been appointed Professor of Mathematics in the State Normal School at Greeley, Colorado.